



**ST JOSEPH'S INSTITUTION
END-OF-YEAR EXAMINATION 2019
YEAR 1**

CANDIDATE
NAME

MARKING SCHEME

CLASS

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INDEX
NUMBER

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GEOGRAPHY

MARKING SCHEME

3 October 2019

Additional Materials : Topographic Map, Writing Paper

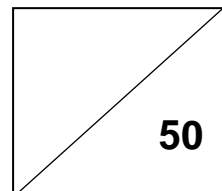
**1 hour 45 minutes
(0800 – 0945)**

READ THESE INSTRUCTIONS FIRST

Write your class, index number and name on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams.
Do not use staples, paper clips, glue or correction fluid.

Answer **ALL** questions.

Start **ALL Sections** on a new sheet of **Writing Paper**.



The number of marks is given in brackets [] at the heading of each section.

This document consists of **X** printed pages including this cover page.

[Turn Over]

SECTION A: (10 marks)
Topographic Map Reading

Answer **ALL** questions.

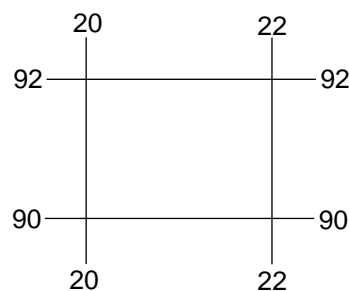
Write your answers on the **Writing Paper** provided.

1. Study the section of map extract of Bindura, Zimbabwe.

(a) Identify a physical feature found in grid square 1789. [1]

- *River*
- *Medium Bush*

(b) State TWO human features in the section of the map shown below. [2]



- *Dam*
- *Huts*
- *Quarry*
- *Dip Tank*
- *Buildings*

(c) Locate the grid square with Duiker Flat, northwest of Bindura Town. [1]

- *1489*

(d) Give the 6-figure grid reference of the trigonometrical station of Danga, southwest of Bindura Town. [1]

- *164792*

(e) You just arrived at Bindura Town's train station (218858) to take part in a friendly soccer match at the Sports Field (185829) in a nearby town.

(i) State the direction of the Sports Field (185829) from the train station (218858). [1]

- *Southwest*

(ii) What is the straight-line distance of the Sports Field from the train station? [1]

- *$8.7\text{cm} \times 50000 = 4.35\text{km} (\pm 200\text{m})$*

(f) State TWO jobs in which people living in Bindura Town are employed as. Provide map evidence to support your answer. [2]

- *Farmers – Bindura Town is surrounded with cultivation*
- *Miners – on the North and West of Bindura Town are presence of quarries*
- *Medical personnel – There is a hospital within Bindura Town*

(g) Suggest ONE reason why the southeastern part of the map has lots of cultivation. [1]

- *The land is relatively flat*
- *It is covered with sparse bush therefore it is easier to clear for cultivation*
- *There are many tributaries to provide water for cultivation*

SECTION B: (32 marks)

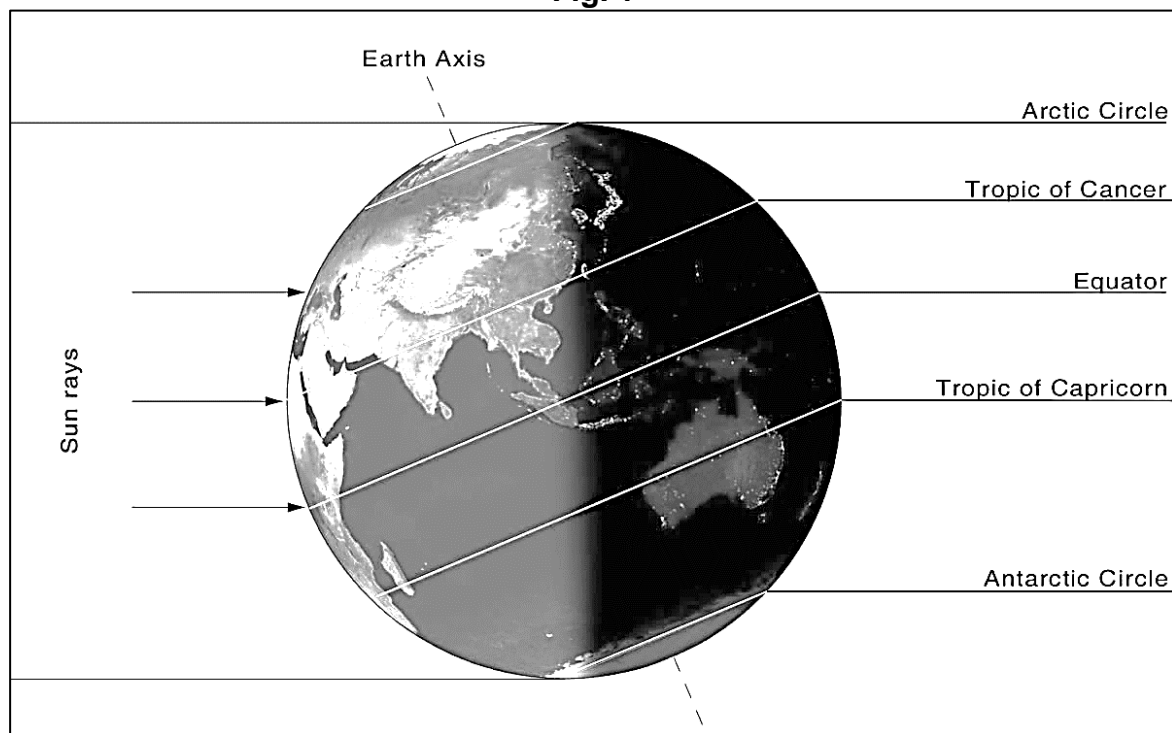
Data-response Questions (4 x 8 marks)

Answer **ALL** questions.

Write your answers on a new sheet of **Writing Paper**.

2. Figure 1 shows the Earth's position in relation to the Sun.

Fig. 1



Source: <http://www.vox.com>

- (a) Study **Fig. 1** and identify the big idea shown. – **NOT TESTED IN 2023 EYE** [1]
- *Sun-Earth's relationship*
- (b) Explain the significance of the Tropic of Cancer in the formation of the summer season. – **NOT TESTED IN 2023 EYE** [3]
- *During this time, the sun's rays hit the Tropic of Cancer at a high angle of incidence*
 - *The solar radiation passes through a small volume of atmosphere and reaches the Earth's surface concentrated over a small area*
 - *Therefore, less solar radiation is being absorbed, reflected and scattered, resulting in high temperatures reaching the Earth's surface – this is the Summer Solstice*
- (c) (i) Study **Fig. 1** and state the length of daylight a person will be experiencing at this time of the year at – **NOT TESTED IN 2023 EYE** [2]
- A. Equator
 - B. North Pole

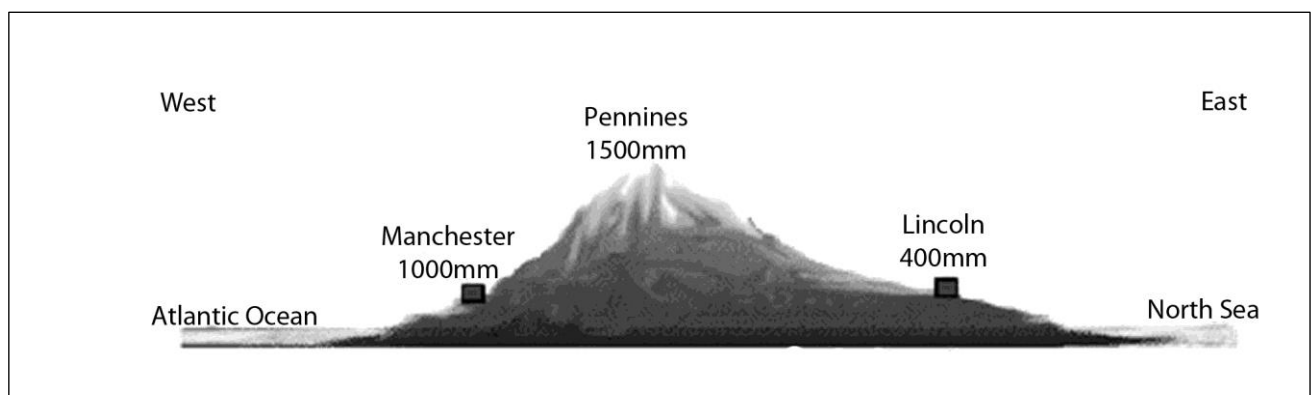
- *Equator – 12 hours of daylight*
- *North Pole – 24 hours of daylight*

(ii) Use **Fig. 1** and explain season would Australia be experiencing [2]
and why. – **NOT TESTED IN 2023 EYE**

- *Australia will be experience winter*
- *This is because Australia is in the Southern Hemisphere which is tilted away from the Sun resulting in lower angle of incidence*

3.(a) Figure 2 shows three locations – Manchester, Pennines and Lincoln, along a range of mountains and hills in England.

Fig. 2



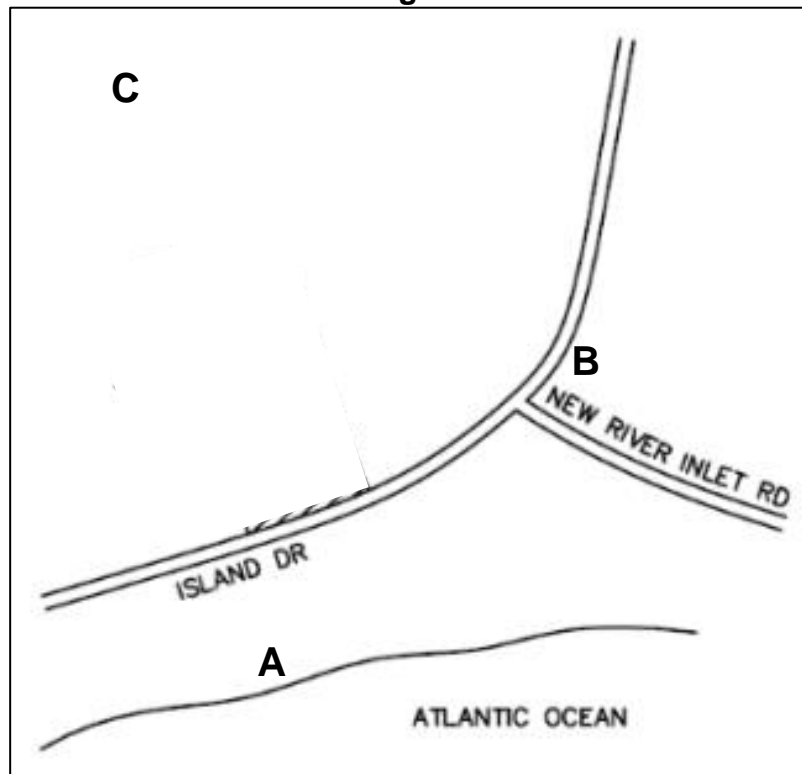
Source: <http://www.coolgeography.co.uk/GCSE/Year11/Weather,Climate/>

Use **Fig. 2** to explain the differences in the amount of precipitation [4]
between Manchester, Pennines and Lincoln.

- *The precipitation is high in Manchester and Pennines as they are experiencing relief rain, whereas Lincoln's precipitation is low as it is in the rainshadow area.*
- *Prevailing wind from Atlantic Ocean blows warm, moist air towards the mountain. The warm, moist air is forced to rise along the sides of the mountain.*
- *As it rises, it cools, condenses, forms clouds and rains on Manchester. The warm, moist air continues rising, condensing and raining higher up the summit of Pennines.*
- *When the air reaches the leeward side of the mountain, it would have lost much of its moisture, becomes cool and dense, therefore begins to descend down the mountain side.*
- *As the cool air descends, it becomes drier and since it is denser than warm air, it suppresses the rising warm air from condensing. This is why Lincoln has lower precipitation.*

(b) Figure 3 shows an area near Atlantic Ocean.

Fig. 3



Source: <https://www.coastalreview.org/wp-content/uploads/2018/03/Barnes-property-NTB.png>

(i) Study **Fig. 3** and identify the most appropriate site to locate wind turbines. [1]

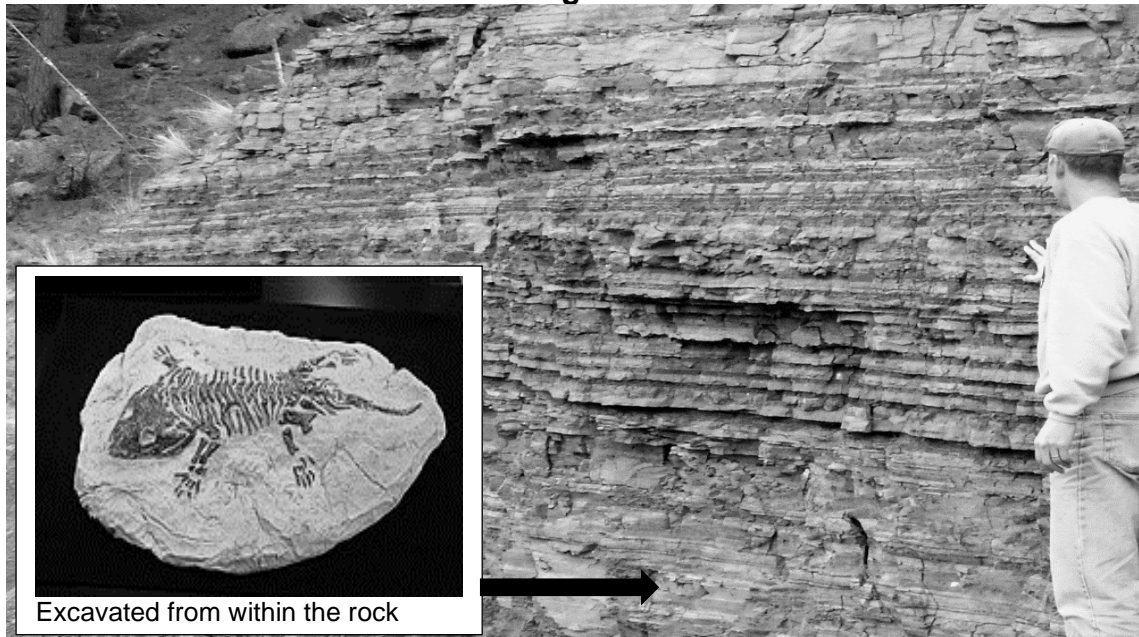
- *Site A*

(ii) Use **Fig. 3** to explain why you have selected the site. [3]

- *Site A always be windy and therefore will be able to turn the wind turbines to generate electricity.*
- *Site A is located along the coastline between the land and Atlantic Ocean, it will experience sea breeze during the day and land breeze during the night.*
- *The land and ocean heat up and cool at different rates, which results in different air pressure. In an attempt to equalise pressure, air from an area of high pressure will blow towards an area of low pressure.*

4.(a) Figure 4 shows a type of rock.

Fig. 4



Source: <http://www.thenaturalhistorian.com>

- (i) Study **Fig. 4** and identify the type of rock. – **NOT TESTED IN 2023 EYE** [1]

- *Sedimentary rock*

- (ii) Use **Fig. 4** to explain with evidence, your answer in (a)(i). – **NOT TESTED IN 2023 EYE** [2]

- *There is presence of layering*
 - *As sediments are being deposited into the ocean, the sediments gather and accumulate as layers over time.*
(Students need to explain briefly the process of layering in the formation of Sedimentary rocks.)
 - *There is presence of fossils.*
 - *As sediments are being deposited into the ocean, the sediments might accumulate over dead flora and fauna and thus fossilising it.*
- [1 mark for stating the evidence, 1 mark for explaining the evidence.]*

(b) Figure 5 shows a rock that has been broken down.

Fig. 5

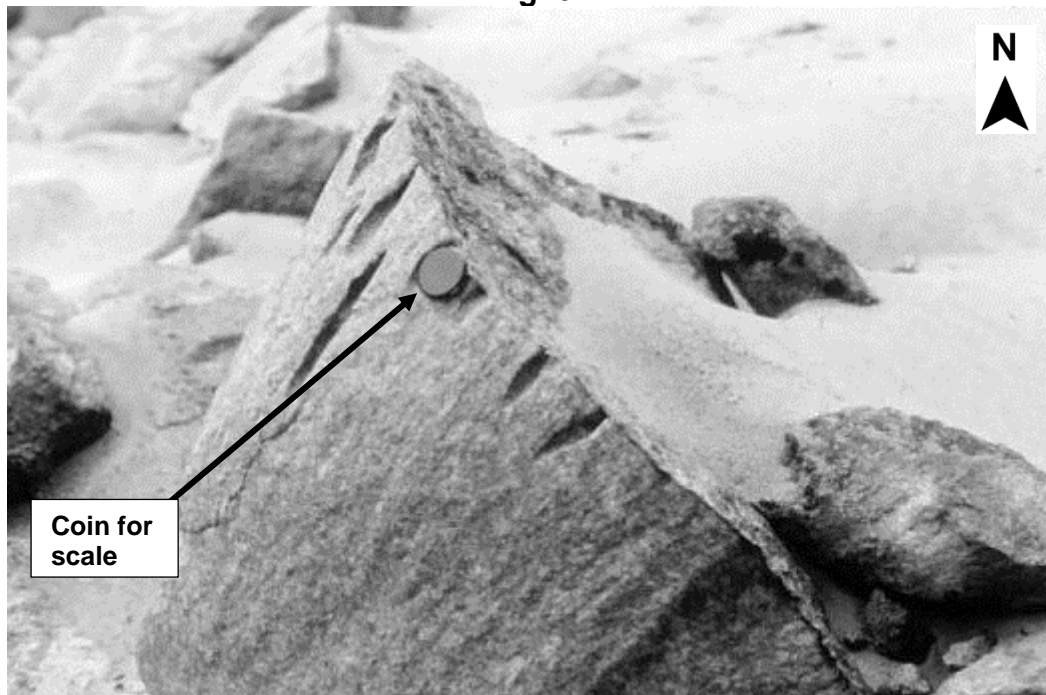


Source: www.sciencephoto.com

- (i) Study **Fig. 5** and identify the weathering process that has broken down the rock into several fragments. – **NOT TESTED IN 2023 EYE** [1]
- *Freeze-thaw Action or Frost Action*
- (ii) Explain how this weathering process breaks down the rock into several fragments. – **NOT TESTED IN 2023 EYE** [3]
- *Water seeps into cracks of the rock and as temperature drops (below 0°C), water freezes into ice and expands, thus prying the crack.*
 - *As temperature increases (above 0°C), the ice thaws into water and the water seeps further down into the crack.*
 - *This process repeats and over time, the crack widens until the rock splits.*
- (c) Explain ONE difference between weathering and erosion. [1]
- *Weathering is the breaking down of rock in-situ whereas erosion involves the removal of rock particles by moving agents such as wind, flowing water (rivers and waves) and glaciers.*

5.(a) Figure 6 shows a landform found in the Arid Tropics.

Fig. 6



Source: <http://people.trentu.ca/>

- (i) Study **Fig. 6** and state the direction of the dominant wind. [1]
- *The dominant wind is coming from the East.*
- (ii) How is this landform formed? [3]
- *Wind, carrying sediments, is blown against the rock at a force where the rock is being sand blasted and slowly eroded away by abrasion.*
 - *Over time, the rock surface flattens and smoothens.*
 - *The wind can blow at various directions, flattening and smoothing the rock at different angles.*

- (b) Figure 7A shows the roots of a Mesquite tree in the Arid Tropics and Figure 7B shows the roots of a tropical rainforest tree.

Fig. 7A

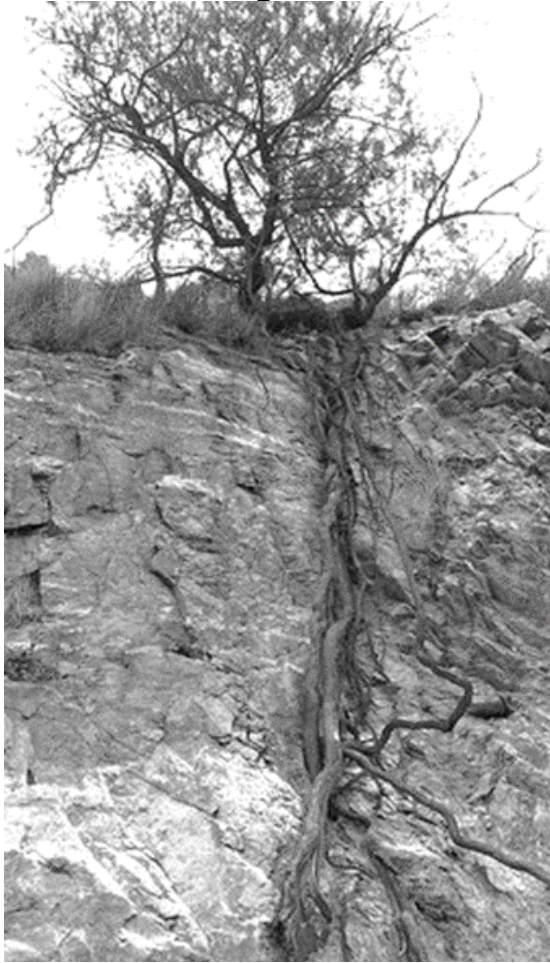


Fig. 7B



Source: <http://www.tripadvisor.co.za> (Figure 7A) & <http://www.happybotanist.com> (Figure 7B)

- (i) Study **Fig. 7A** and **Fig. 7B** and describe the main differences [2]
between the two root systems.
- *The Mesquite tree of Fig. 7A has long, deep roots*
 - *The tropical rainforest tree of Fig. 7B has shallow and thick buttress roots*
- (ii) Why are the two root systems different? [2]
- *The Mesquite tree of Fig. 7A has long, deep roots because the arid tropics is very dry and plants like the Mesquite tree has to search for water deep underground.*
 - *The tropical rainforest tree of Fig. 7B has shallow and thick buttress roots because the humid tropics has conditions very conducive for plant growth therefore many plants compete to survive and vegetation is dense. In order gain sunlight, trees of the tropical rainforest grow very tall that is why their roots are thick to support their tall height.*

SECTION C: (8 marks)

Open-response Question (8 marks)

Answer the question on a new sheet of **Writing Paper**.

6. With reference to **Fig. 8A** and **Fig. 8B**, explain how the two environments, labelled the Amazon Rainforest and the Sahara Desert on the world map (**Fig. 8A**), are formed. [8]

Fig. 8A

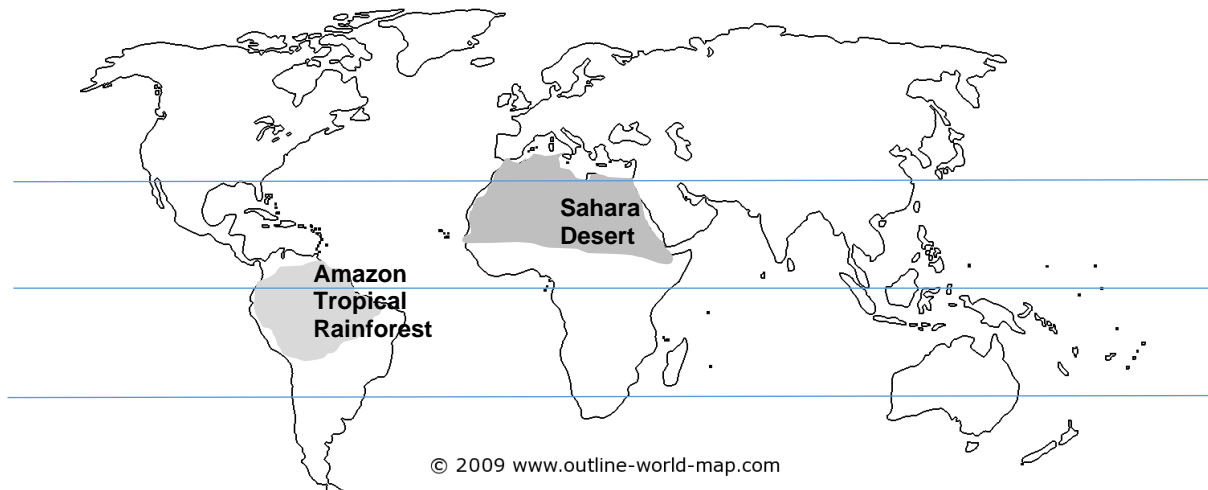
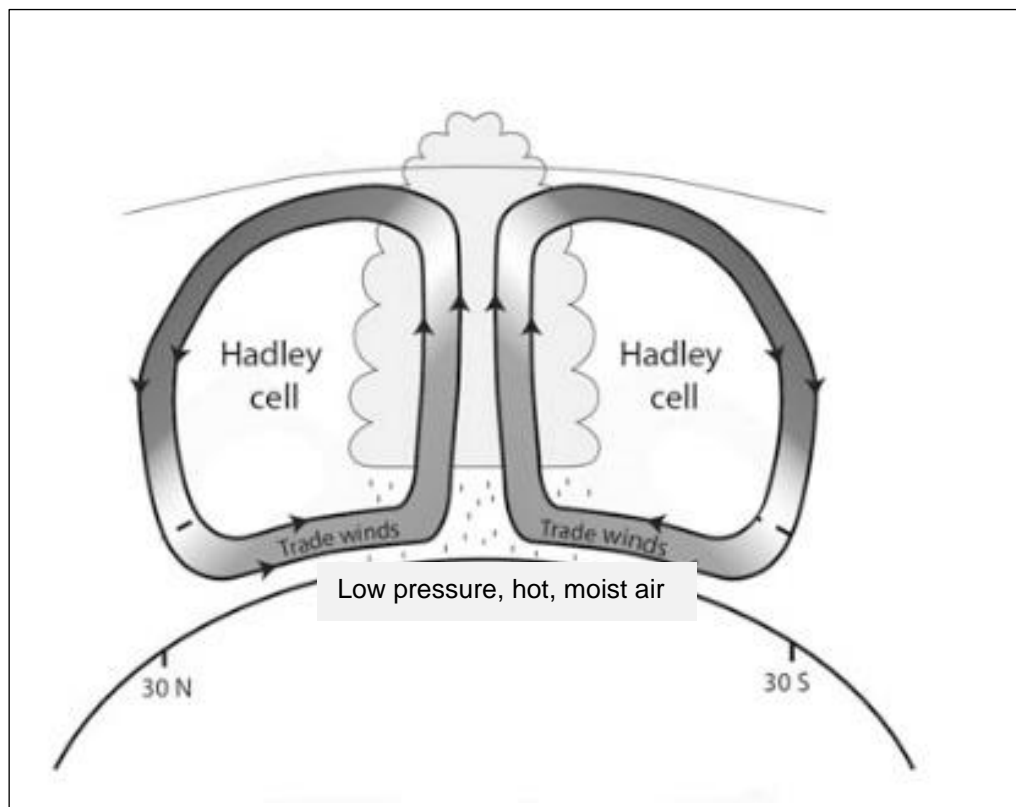


Fig. 8B

Source: <http://www.researchgate.net>



Level of Response Rubrics for Open-Response Question

	AO1 Knowledge/ Understanding	AO2 Application/Analysis	AO3 Expression
Level 1	No or little relevant knowledge and/or understanding , which is largely superficial or of marginal relevance; inappropriate case studies	Little attempt at application/analysis	Poor terminology, difficult to understand
Level 2	Relevant knowledge and understanding but with some omissions, case studies and examples well chosen	Some attempt at application; competent answer although not well-developed and tends to be descriptive	Acceptable terminology Some forms of organisation Can follow argument
Level 3	Accurate, specific and well detailed knowledge and good understanding; examples and case studies are well chosen and developed	Detailed application; well-developed answer that cover most or all aspects of question	Geographical terminology used appropriately Organised responses